

Claims

- [c1] A drive mechanism for a vertical axis automatic washer, said washer having a rotatable wash basket, a rotatable agitator concentrically mounted in said wash basket and a drive motor, said drive mechanism comprising:
- a first drive shaft driven by said motor at a first rotational speed and with a first torque,
 - a second drive shaft arranged to rotatably drive said agitator,
 - a mechanism arranged between said first drive shaft and said second drive shaft to convert said first rotational speed and first torque to a second rotational speed and a second torque at said second drive shaft,
 - a first clutch arranged between said wash basket and said first drive shaft to allow for selective engagement and disengagement between said wash basket and said first drive shaft,
 - a second clutch arranged between said wash basket and said second drive shaft to allow for selective engagement and disengagement between said wash basket and said second drive shaft.
- [c2] A drive mechanism according to claim 1, wherein said first drive shaft is connected to said motor via a belt and pulley arrangement.
- [c3] A drive mechanism according to claim 1, wherein said second drive shaft is connected to said agitator via a direct spline connection.
- [c4] A drive mechanism according to claim 1, wherein said mechanism comprises a gear mechanism.
- [c5] A drive mechanism according to claim 4, wherein said gear mechanism comprises a planetary gear arrangement.
- [c6] A drive mechanism according to claim 5, wherein said first drive shaft is connected to a sun gear and said second drive shaft is connected to a planetary gear carrier.
- [c7] A drive mechanism according to claim 1, wherein said first clutch comprises a spline clutch.

- [c8] A drive mechanism according to claim 1, wherein said wash basket includes a spin tube arranged concentrically around said second drive shaft and said second clutch comprises a tang clutch arranged between said spin tube and said gear mechanism.
- [c9] An automatic washer comprising: ✓
a rotatable wash basket,
a rotatable agitator concentrically mounted in said wash basket,
a drive motor,
a first drive shaft driven by said motor at a first rotational speed and with a first torque,
a second drive shaft arranged to rotatingly drive said agitator,
a mechanism arranged between said first drive shaft and said second drive shaft to convert said first rotational speed and first torque to a second rotational speed and a second torque at said second drive shaft,
a first clutch arranged between said wash basket and said first drive shaft to allow for selective engagement and disengagement between said wash basket and said first drive shaft,
a second clutch arranged between said wash basket and said second drive shaft to allow for selective engagement and disengagement between said wash basket and said second drive shaft.
- [c10] An automatic washer according to claim 9, wherein said first drive shaft is connected to said motor via a belt and pulley arrangement.
- [c11] A drive mechanism according to claim 9, wherein said second drive shaft is connected to said agitator via a direct spline connection.
- [c12] A drive mechanism according to claim 9, wherein said mechanism comprises a gear mechanism.
- [c13] A drive mechanism according to claim 12, wherein said gear mechanism comprises a planetary gear arrangement.
- [c14] A drive mechanism according to claim 13, wherein said first drive shaft is connected to a sun gear and said second drive shaft is connected to a planetary

gear carrier.

- [c15] A drive mechanism according to claim 9, wherein said first clutch comprises a spline clutch.
- [c16] A drive mechanism according to claim 9, wherein said wash basket includes a spin tube arranged concentrically around said second drive shaft and said second clutch comprises a tang clutch arranged between said spin tube and said gear mechanism.
- [c17] A drive mechanism for a vertical axis automatic washer^M, said washer having a rotatable wash basket, a rotatable agitator concentrically mounted in said wash basket and a drive motor, said drive mechanism comprising:
a first drive shaft driven by said motor at a first rotational speed and with a first torque,
a second drive shaft arranged to rotatably drive said agitator,
a planetary gear arrangement arranged between said first drive shaft and said second drive shaft to convert said first rotational speed and first torque to a second rotational speed and a second torque at said second drive shaft,
a spline clutch arranged between said wash basket and said first drive shaft to allow for selective engagement and disengagement between said wash basket and said first drive shaft,
a tang clutch arranged between said wash basket and said second drive shaft to allow for selective engagement and disengagement between said wash basket and said second drive shaft.
- [c18] An automatic washer according to claim 17, wherein said first drive shaft is connected to said motor via a belt and pulley arrangement.
- [c19] A drive mechanism according to claim 17, wherein said second drive shaft is connected to said agitator via a direct spline connection.
- [c20] A drive mechanism according to claim 17, wherein said first drive shaft is connected to a sun gear and said second drive shaft is connected to a planetary gear carrier.